

region of low ion energy for anisotropic etching, and the rf bias voltage to which a peak to peak voltage V_{pp} value larger than a V_{pp} value of a continuous rf bias voltage at which the same etch rate can be obtained is given, so as to have the high ion energy which is larger than a high ion energy of the continuous rf bias voltage, is applied to a stage on which a sample is placed independently of the generation of the plasma; and

on-off modulating the rf bias voltage at least at one period of anisotropic etching treatment of the sample and which is prior to another period of etching treatment of the surface of the sample in which selectivity is higher than selectivity at the one period.

Please rewrite claim 4 in independent form as follows:

4. (amended) A method of treating a surface of a sample, comprising the steps of:

generating a plasma in a treatment chamber;

applying an rf bias voltage of a frequency so that ions of intermediate energy which promote etching reaction while providing poor directionality are reduced, and ions of high energy having a high directionality and ions of low energy which do not contribute to etching are increased, so as to have at least one peak point at a region of high ion energy and at least one peak point at a region of low ion energy for anisotropic etching, and the rf bias voltage to which a peak to peak voltage V_{pp} value larger than a V_{pp} value of a continuous rf bias voltage at which the same etch rate can be obtained is given, so as to have the high ion energy which is larger than a high ion energy of the continuous rf bias voltage, is applied to a stage on which a sample is placed independently of the generation of the plasma; and

on-off modulating the rf bias voltage at least at one period of anisotropic etching treatment of a surface of the sample and which is prior to another period of

etching treatment of the surface of the sample in which selectivity is higher than selectivity at the one period;

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cont wherein a duty ratio when the rf bias voltage is in the on state is set to 5 to 50%.

Please cancel claims 24-29 without prejudice or disclaimer of the subject matter thereof.

Please rewrite claim 30 in independent form as follows:

30. (amended) A method of treating a surface of a sample, comprising the steps of:

generating a plasma in a treatment chamber;

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applying an rf bias voltage of a frequency so that ions of intermediate energy which promote etching reaction while providing poor directionality are reduced, and ions of high energy having a high directionality and ions of low energy which do not contribute to etching are increased, so as to have at least one peak point at a region of high ion energy and at least one peak point at a region of low ion energy for anisotropic etching, and the rf bias voltage to which a peak to peak voltage V_{pp} value larger than a V_{pp} value of a continuous rf bias voltage at which the same etch rate can be obtained is given, so as to have the high ion energy which is larger than a high ion energy of the continuous rf bias voltage, is applied to a stage on which a sample is placed independently of the generation of the plasma; and

on-off modulating the rf bias voltage at least at one period of an anisotropic main etch of the first layer of the sample and which prior to another period during which the second layer which underlies the first layer is exposed and in which selectivity is higher than selectivity at the one period;

wherein the at least one peak point of the region of the high ion energy and the at least one peak point of the region of the low ion energy has a number of ions which is at least twice a number of ions in a region of the intermediate ion energy.

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Please add the following new claims:

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--31. A method according to claim 1, wherein the sample includes a first layer formed over a second layer which underlies the first layer, and the on-off modulating of the rf bias voltage at the at least one period of anisotropic etching treatment of the surface of the sample includes an anisotropic main etch of the first layer of the sample which is prior to the another period of etching treatment of the surface of the sample during which the second layer is underlying the first layer exposed.

32. A method according to claim 31, wherein the anisotropic main etch of the first layer is effected during the at least one period without exposing the second layer which underlies the first layer.

33. A method according to claim 1, wherein the on-off modulating of the rf bias voltage is effected so that no rf bias voltage is applied during the off state.--

REMARKS

By the above by the above amendment, claims 24-29 have been canceled without prejudice or disclaimer of the subject matter thereof, with claim 1 being amended in a manner which is considered to overcome the rejection of claim 1 and the dependent claims under 35 U.S.C. §112, second paragraph, in that the term "high" in the phrase "anisotropy is high" is a relative term which renders the claim indefinite. By the present amendment, the term "high" has been deleted from the claims and the claims amended to recite "anisotropic etching treatment". Further,